

WE CLAIM:

1. A same potential block comprising:

a main body having a plurality of holes formed therein;

a first metal piece, including a first carrier strip located adjacent to said main body and a plurality of first clips extending from said first carrier strip, each of said plurality of first clips positioned within a corresponding hole of said plurality of holes formed in said main body;

wherein said carrier strip maintains the same potential across each of said plurality of clips and said plurality of first clips are adapted to receive terminal portions of wires to thereby keep the wires at the same potential.

2. The same potential block of claim 1, further comprising:

a second metal piece, including a second carrier strip located adjacent to said main body, a plurality of second clips extending from said second carrier strip, each positioned within a corresponding hole of said plurality of holes formed in said main body to mate with a corresponding one of said plurality of first clips thereby forming a pair of a first clip and a second clip within each hole formed in said main body.

3. The same potential block of claim 2, wherein

within each of said plurality of holes formed in said main body, said pair of a first clip and a second clip form a female connector portion for receiving a terminal pin connected to a wire.

4. The same potential block of claim 2, wherein

said plurality of holes formed in said main body are elongated in a first direction, and

each clip of said plurality of first clips and said plurality of second clips are elongated in said first direction and include a locking tang extending towards the center of the corresponding hole from an intermediate portion of the clip and a contacting tang extending towards the center of the corresponding hole, each clip extending from said carrier strip and terminating with said contacting tang,

wherein, in each of said plurality of holes formed in said main body, locking tangs of a pair of a first clip and a second clip are flexible to allow insertion of a terminal pin of a wire and have end portions to engage a projection of the terminal pin of the wire to interrupt removal of the terminal pin of the wire,

wherein, in each of said plurality of holes formed in said main body, contacting tangs extend to contact a conducting portion of the terminal pin of the wire.

5. The same potential block of claim 2, wherein

each clip of said plurality of first clips and said plurality of second clips is elongated in a direction perpendicular to said first carrier strip and has an arcuate cross section in a direction parallel to the carrier strip.

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6. The same potential block of claim 2, further comprising:
a cap having a plurality of holes formed therein, connected to said main body such that the plurality of holes of said cap align with the plurality of holes of said main body.

7. The same potential block of claim 6, wherein
said main body includes a hollow portion having a first surface at which said plurality of holes formed within said main body terminate and said cap is positioned within said main body.

8. The same potential block of claim 7, wherein
said cap and said main body are glued together.

9. The same potential block of claim 7, wherein
said cap and said main body are ultrasonically welded together.

10. The same potential block of claim 9, wherein
said hollow portion of said main body includes projections along surfaces extending from said first surface, and
said cap rests upon upper surfaces of said projections.

11. The same potential block of claim 7, wherein
said cap abuts said first surface of said hollow portion and is frictionally engaged with said hollow portion of said main body.

said first carrier strip of said first metal piece and said second carrier strip of said second metal piece are positioned between said first surface of said hollow portion of said main body and said cap.

when said cap is pushed into the hollow of said main body, said portions of said first and second carrier strips located within said wedge shaped slot are forced together.

15. The same potential block of claim 14, wherein
said main body has an elongated hollow formed on an elongated
side in which said first carrier strip is positioned and has a slot formed on
each end of said elongated hollow; and
said exterior contact portion is joined to ends of said first carrier strip
through the slots formed in said main body.

16. The same potential block of claim 14, wherein said exterior contact portion includes a contacting surface adapted to contact a first connector and at least one continuity spring adapted to contact a second connector.

17. The same potential block of claim 14, wherein
said exterior contact portion includes two side portions extending in a direction substantially perpendicular to a direction in which said first carrier strip extends, and

said same potential block further comprises, at each of said two side portions of said exterior contact portion, means for connecting said exterior contact portion to said main body.

18. The same potential block of claim 14, wherein
said exterior contact portion includes two side portions extending in a direction substantially perpendicular to a direction in which said first carrier strip extends, each of said side portions including a hole, and

said same potential block further comprises an eyelet for connecting the two side portions of said exterior contact portion to said main body.

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19. The same potential block of claim 2, wherein

said first carrier strip is flat; and

said second carrier strip has a cross section in a direction in which said second carrier strip extends including a plurality of adjacent "U" shapes.

20. The same potential block of claim 2, wherein

said first carrier strip is flat; and

said second carrier strip has a plurality of projections extending from a side of said second carrier strip opposite from a side from which said plurality of clips extend from said second carrier strip, wherein said plurality of projections contact said first carrier strip.

21. The same potential block of claim 20, wherein said plurality

of projections extending from said second carrier strip are springs.

22. The same potential block of claim 21, wherein said plurality

of projections extending from said second carrier strip have an "S" or "Z" shape.

23. The same potential block of claim 2, wherein

said main body includes a hollow having a first surface,

each of said plurality of holes formed in said main body include a first cylindrically formed hole having a first diameter and a second

cylindrically formed hole having a second diameter, said first cylindrically formed hole extending from said first surface of said hollow to said second cylindrically formed hole, said first and second cylindrically formed holes being concentric, and said first diameter being larger than said second diameter.

24. The same potential block of claim 1, wherein said main body is made of a polymer material.

25. The same potential block of claim 6, wherein said main body and said cap are made of a polymer material.

26. A combination of a same potential block and a connector, comprising:

the same potential block of claim 14, and

a connector, including a plurality of signal terminals to connect a signal cable to a signal processing device, wherein

said exterior contact portion includes a contacting surface adapted to contact a first connector and at least one continuity conductor adapted to contact a second connector.

27. The combination of claim 26, wherein

said at least one continuity conductor includes a plurality of continuity springs.

28. A method of making a same potential block, comprising:

(a) stamping a first metal piece from a first sheet of metal, said first metal piece including a first carrier strip and a plurality of first clips extending from said first carrier strip; and

(b) inserting said plurality of first clips into a plurality of holes of a main body of the same potential block.

29. The method of claim 28, further comprising:

(c) stamping a second metal piece from a second sheet of metal, said second metal piece including a second carrier strip, and a plurality of second clips extending from said second carrier strip;

(d) inserting said plurality of second clips into said plurality of holes of said main body.

30. The method of claim 29, further comprising:

(e) during step (b), positioning said first carrier strip within a hollow formed in said main body;

(f) during step (d), positioning said second carrier strip within said hollow formed in said main body; and

(g) inserting a cap into said hollow of said main body, said cap having a plurality of holes aligning with said plurality of holes formed in said main body.

31. The method of claim 30, wherein
step (g) includes pressing portions of said first carrier strip against
portions of said second carrier strip.

32. The method of claim 31, further comprising:
(h) attaching a pin to a ground shield wire of a cable;
(i) inserting the pin into one of said plurality of holes formed in
said main body to create an electrical connection between said ground
shield wire and said exterior contact portion.

33. The method of claim 32, further comprising:
(j) removing the pin inserted in step (i) with an insertion and
extraction tool.

34. The method of claim 31, further comprising:
(h) physically attaching and electrically connecting said same
potential block to a first connector.

35. The method of claim 34, wherein
step (h) includes contacting the first connector with an exterior
contact portion connected to said first carrier strip and located outside said
main body.

36. The method of claim 30, wherein
step (g) includes ultrasonically welding said cap to said main body.

37. The method of claim 29, wherein
step (c) includes bending said second carrier strip to form "U"-
shaped projections extending from said second carrier strip.

38. The method of claim 29, wherein
step (c) includes bending extensions extending from a side of said
second carrier strip opposite a side from which said plurality of second clips
extend, and wherein the method further comprises the step of pressing the
extensions extending from a side of said second carrier strip against the
first carrier strip.

39. The method of claim 38, wherein
step (c) includes bending the extensions into "S" or "Z" springs.

40. The method of claim 31, further comprising:

- (h) attaching a pin to a signal wire of a cable;
- (i) inserting the pin into one of said plurality of holes formed in
said main body to create an electrical connection between said signal wire
and said exterior contact portion.

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41. The method of claim 31, further comprising:

- (h) attaching a pin to a conducting power wire of a cable;
- (i) inserting the pin into one of said plurality of holes formed in said main body to create an electrical connection between said conducting power wire and said exterior contact portion.

42. The method of claim 34, further comprising:

- (i) electrically connecting said same potential block to a second connector via at least one continuity spring extending from a contacting surface of the exterior contact portion.

43. The same potential block of claim 1, wherein the same potential block is a grounding block, and said carrier strip maintains a ground potential across each of said plurality of clips.

44. The same potential block of claim 1, wherein the same potential block is a bussing block for carrying a constant positive or negative potential.

45. The same potential block of claim 1, wherein the same potential block is a bussing block for carrying signals.

46. The same potential block of claim of claim 31,
wherein step (g) includes pressing portions of said first carrier strip
against portions of said second carrier strip by forcing said portions of said
first and second carrier strips into wedge portions of said cap.

FOOTNOTES